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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,421	01/22/2004	Takashi Chuman	Q79473	3215

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WASHINGTON, DC 20037

EXAMINER
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SHAPIRO, LEONID

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/16/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/761,421

Applicant(s)

CHUMAN ET AL.

Examiner

Leonid Shapiro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4-24-06</u>   | 6) <input type="checkbox"/> Other: _____                          |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori et al. (U.S. Patent 5,912,649—herein referred to as “Hattori”) in view of Kodon et al. (U.S. Patent 7,006,171 B1—herein referred to as “Kodon”).

As to **Claim 1**, Hattori teaches a three-dimensional image display device comprising: at least one transmissive light-emitting display panel (***Fig. 1, Reference Number 20 and Col. 2, lines 46-57***); and a second light-emitting display panel located behind said transmissive light-emitting display panel (***Fig. 1, Reference Number 10 and Col. 2, lines 25-45***), wherein each of said transmissive and second light-emitting display panels includes patterned conductors (***Fig. 5, Reference Numbers 11 and 15—For the second light emitting display; for the transmissive light emitting display the conductive pattern is 21 and 25—See Fig. 1***), wherein each of the patterned conductors includes a plurality of light-emitting portions (***Fig. 5, note intersection of 11 and 15 for the second light emitting display and the intersection of 21 and 25 for the transmissive light emitting display panel***) and a bus lines each of which is connected to and overlapping with the light-emitting portions so that the light-emitting portions are classified into plural linear groups, (***See Fig. 5, and note arrangement of conductors 15 and 11***), and wherein each of the light-emitting

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portions includes a light-emitting layer exhibiting electroluminescence (**Col. 2, lines 40-45 and 53-57**).

Hattori fails to teach each of the plurality of bus lines has portions overlapping with said light-emitting portion, each of the portions having an area equal to or smaller than 5% of an area of each of the light-emitting portions. Examiner cites Kodon to teach aperture ratio of 5% (**Kodon— Col. 1, lines 23-31**). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use small aperture ratio (5%) as taught by Kodon in the three-dimensional image display device taught by Hattori to make portions overlapping with said light-emitting portion, each of the portions having an area equal to or smaller than 5% of an area of each of the light-emitting portions in order to increase efficiency of light (**Kodon— Col. 1, lines 21-30**).

As to **Claim 2**, Hattori, teaches the light-emitting portions of said transmissive light-emitting display panel are located in a periodic pattern (**Hattori—Fig. 1, note intersection of elements 21 and 25 as portrayed in Fig. 5 for the second light-emitting display panel**); and said second light-emitting display panel has light-emitting portions located in a periodic pattern (**Hattori—Fig. 5, note intersection of elements 11 and 15**).

As to **Claim 3**, Hattori, teaches the periodic patterns each have a matrix layout (**Hattori—Fig. 5, note matrix layout and Col. 2, lines 40-42 and 51-53**).

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2. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hattori, Kodon** as applied to claim 1 above, and further in view of Yokoyama (6,429,599 B1).

As to **Claim 4**, Hattori, teaches the light-emitting portion of said transmissive light-emitting display panel with the light-emitting layer and supplying holes or electrons to the light-emitting layer (*Hattori—Col. 2, lines 56-57-note that electron movement is inherent when current is applied to the electrodes*), and a pair of transparent electrodes sandwiching the light-emitting layer and the organic compound material layer there between (*Hattori—Fig. 1, Reference numbers 21 and 25*); and one of the transparent electrodes is connected to the bus line (*Fig. 1, note bus lines 25*).

Hattori fails to teach at least one organic compound material layer made of an organic compound in contact with the light-emitting layer. Examiner cites Yokoyama to teach at least one organic compound material layer made of an organic compound in contact with the light-emitting layer (*Yokoyama— Col. 1, lines 10-15*). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to make the lightemitting layer of organic compound as taught by Yokoyama in the three-dimensional image display device taught by Hattori to simplify the manufacturing process through the use of inkjet patterning.

As to **Claim 5**, Hattori teaches the one transparent electrode connected to the bus line is a cathode (*Fig. 1, element 25*).

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3. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hattori, Kodan and Yokoyama** as applied to claim 4 above, and further in view of **Furukawa et al.** (JP 11-007893 A).

**Hattori, Kodan and Yokoyama** fail to teach the bus line is dislocated so as not to overlap the light-emitting layer and buried in the one transparent electrode. Examiner cites **Furukawa et al.** to teach the bus line is dislocated so as not to overlap the light-emitting layer and buried in the one transparent electrode (**Furukawa — Solution**). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to make the bus line is dislocated so as not to overlap the light-emitting layer and buried in the one transparent electrode as taught by **Furukawa** in the three-dimensional image display device taught by **Hattori, Kodan and Yokoyama** to enhance the contrast of display (**Furukawa — Problem to be solved**).

#### ***Telephone Inquiries***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 571-272-7683. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS  
03.15.07



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